

AMSAT News Service Weekly Bulletins

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WT0N's Homepage <http://www.qsl.net/wt0n>

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SB SAT @ AMSAT \$ANS-004.01

SPUTNIK PS2 UPDATE

HR AMSAT NEWS SERVICE BULLETIN 004.01 FROM AMSAT HQ

SILVER SPRING, MD, JANUARY 04, 1998

TO ALL RADIO AMATEURS BT

BID: \$ANS-004.01

Reports from around the world appear to confirm that the Sputnik PS2 mini-satellite has stopped transmitting. The beacon signal from the working model of the original Sputnik 1 satellite was last monitored on December 29 or 30. The lithium battery-powered 100 mW transmitter had continued working for eight weeks after its launch by hand from the Russian Mir space station on November 3, transmitting a beep-beep tone on 145.82 MHz, and many hams around the globe had continued to track the satellite's progress. The frequency of the tone indicated the satellite's internal temperature. Recent reports from stations monitoring the Sputnik PS2 indicated its signals were getting weaker.

Students from the FR5KJ radio club at Jules Reydellet College in St. Denis, Reunion Island, and at the Polytechnic Laboratory of Nalchik Kabardine in Russia cooperated in building the mini-Sputnik. The Russian students built the satellite body, while the French students fabricated the transmitter inside. Two working models of the Sputnik were assembled and transported to Mir, but only one was launched. The Sputnik PS2, also called RS-17, surpassed the life of its original namesake by several weeks. The little satellite was a one-third scale model of the original and had been estimated to remain in operation for approximately 40 days.

As of December 31, the satellite had not been officially declared dead, however.

[ANS thanks the ARRL for this report.]

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SB SAT @ AMSAT \$ANS-004.02

200TH HOUSTON AMSAT NET

HR AMSAT NEWS SERVICE BULLETIN 004.02 FROM AMSAT HQ

SILVER SPRING, MD, JANUARY 04, 1998

TO ALL RADIO AMATEURS BT

BID: \$ANS-004.02

January 6, 1998 will mark the 200th time the Houston AMSAT Net has been transmitted over commercial satellite. (the net has been going on much longer than that).

To celebrate, they will have live interviews with Bill Tynan, W3X0 (president AMSAT-NA), Keith Baker, KB1SF (executive vice president of AMSAT-NA), Stan Wood, WA4NFY (board of director AMSAT-NA and P3D engineer), Lou McFadin (manager P3D integration lab), W5DID, Frank

Bauer, KA3HD0 (vice president of manned space flight AMSAT-NA).

What might be discussed? P3D integration, P3D launch, International Space Station (ISS) and SAREX, the future of satellites? You will have to listen in to find out.

Also a little bit of trivia about the net will also be on the agenda besides the regular bulletins and information.

You can join them on KU-band satellite Hughes SBS6, T13B, 6.2 MHz wide band audio and also for their live Real Audio feed at <http://www.amsatnet.com>
They use 28.8 mono encoding and it sounds excellent.

[ANS thanks Bruce Paige, KK5D0, AMSAT Area Coordinator for this information.]

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SB SAT @ AMSAT \$ANS-004.03
FIND EARTHWATCH SPACECRAFT

HR AMSAT NEWS SERVICE BULLETIN 004.03 FROM AMSAT HQ
SILVER SPRING, MD, JANUARY 04, 1998
TO ALL RADIO AMATEURS BT
BID: \$ANS-004.03

AMSATers, particularly those in the Southern Hemisphere are asked to help find the EARTHWATCH Spacecraft. It was launched from Russia just before Christmas and apparently stopped transmitting sometime Christmas day. Rex Richardson of Orbital Sciences Corp. has asked for our help. It is they who are to conduct the thermal vacuum testing for Phase 3D. So, we owe it to them to try to help them if we can.

The EARTHWATCH spacecraft parameters are as follows:

Frequency: 401.5 MHz
Modulation FSK @ 192000 BPS (I believe it is a burst at a 1 sec rep rate)

The Ephemeris sets are as follows:
NORAD TWO LINE ELEMENTS:

1. 25123U 97085A 97363.20916818 +.00003168 +0.0000-0 +12102-3 0 00353
2. 25123 097.2987 078.9864 0006224 096.5759 263.6190 15.27335732000717

NAVSPACUR ONE LINE ELEMENTS
1. 25123.5375799.8961343.000663.0006224.2703285.9480360.2702742971229
IF YOU MAKE ANY CONTACT PLEASE RESPOND to RX Richardson at rexrichardson@oscsystems.com

[ANS thanks Bill Tynan W3X0, AMSAT-NA president, for this item.]

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SB SAT @ AMSAT \$ANS-004.04
A0-16 S BAND OFF

HR AMSAT NEWS SERVICE BULLETIN 004.04 FROM AMSAT HQ
SILVER SPRING, MD, JANUARY 04, 1998
TO ALL RADIO AMATEURS BT
BID: \$ANS-004.04

Jim White, WD0E, informs the ANS that A0-16 S band transmitter is off.

About three weeks ago they had it on for some testing and confirmed A0-16 does not have the power budget to keep it on and keep the 70 cm transmitter at a power level that supports entry level ground station operations. The 437.05 MHz transmitter has to be run at about .5 W to allow the S transmitter to remain on. Any higher than that and the software turns the S off to maintain a safe battery voltage.

Folks interested in testing S receive equipment can use either the DOVE S transmitter on 2401.220 MHz or the U0-11 S transmitter. For further, see the most recent AMSAT Journal or the article on the AMSAT-NA WEB page.

[ANS thanks Jim White, WD0E, for this update.]

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SB SAT @ AMSAT \$ANS-004.05
ANTARCTICA ON U0-22

HR AMSAT NEWS SERVICE BULLETIN 004.05 FROM AMSAT HQ
SILVER SPRING, MD, JANUARY 04, 1998
TO ALL RADIO AMATEURS BT
BID: \$ANS-004.05

For those who haven't been following Ron Ross' ,KE6JAB, adventures in Antarctica on U0-22, his narratives and photos are on <http://www.thistle.org>. There are 4 photos there now, one is there but not posted yet, and one on U0-22 that will be downloaded and posted soon. He plans to try K0-25 also, but has had limited success there on the uplink.

Ron is using an IC-821, a small storage battery which he recharges with solar cells, a laptop PC running WiSP16, and two eggbeater antennas mounted on six foot poles stuck in the snow about 20 feet apart.

[ANS thanks Roy Welch, W0SL, for this news.]

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SB SAT @ AMSAT \$ANS-004.06
WEEKLY SATELLITE REPORT PT 1

HR AMSAT NEWS SERVICE BULLETIN 004.06 FROM AMSAT HQ
SILVER SPRING, MD, JANUARY 04, 1998
TO ALL RADIO AMATEURS BT
BID: \$ANS-004.06

MIR

The PMS 2-meter radio station was temporarily moved from the core module and installed in the Priroda Module.

The crew also installed a new modem a few weeks ago. But due to the crews heavy work load, all of the TNC parameters have not been properly configured. Mirex would like the stations monitoring the PMS to please be patient while we make adjustments.

[ANS thanks the MIREX team for this information]

SAFEX, MIR 70 cm Repeater (Uplink 435.750 MHz FM, Downlink 437.950 MHz FM, subaudible tone 141.3 Hz)

The repeater has been active intermittently. This week, the crew turned off the PL tone feature of the repeater. This makes it easier for weak stations to access the repeater. It also has the side effect of keeping the repeater up and transmitting static for long periods of time followed by short time-outs. Make sure you compensate for doppler for EACH transmission

Down link Uplink split
437.959 435.741 2.218

437.958 435.742 2.216
437.956 435.744 2.212
437.954 435.746 2.208
437.952 435.748 2.204
437.950 435.750 2.200
437.948 435.752 2.196
437.946 435.754 2.192
437.944 435.756 2.188
437.942 435.758 2.184
437.941 435.759 2.182

[ANS thanks the MIREX team for this information]

RS-12

(Uplink, 145.91-145.95 MHz CW/SSB, Downlink 29.41-29.45 MHz)
Operational, now in mode KA.

Wayne Day, N5WD, tells the Amsat News Service that
on 1/3/98 at 0750, K5PK (Mode K) and Wayne (Mode A) QSO'ed on
RS-12's orbit # 34664. He mentioned that he noticed a message
on his local packet system that mentioned that RS-12 was back
into Mode K.

Wayne Day, N5WD,

RS-15

(Uplink 145.858-145.898 MHz CW/SSB, Downlink 29.354-29.394 MHz CW/SSB)
Operational.

RS-16

At this time only the beacons are on.

Transponder information on RS-16.

Uplink = 145.915 - 145.948 MHz
Downlink = 29.415 - 29.448 MHz
Beacons = 29.408 and 29.451 MHz
Pwr 29 MHz Down = 1.2 W /4 W

Beacon 1 = 435.504 MHz

Beacon 2 = 435.548 MHz

Pwr 435 MHz Beacons = 1.6 W

RS-17

As of December 31, although the satellite had not been officially declared
dead, a number of observers has reported its 145.820 MHz missing.

New Sputnik-40 QSL Address QSL Information is as follows:

QSL Information for SWL (Short Wave Listener)

Sergey Samburov (RV3DR)

P.O. Box 73

Korolev-10 City

141070, Russia

[ANS thanks the MIREX team for this information]

A0-10

(Uplink 435.030-435.18 MHz CW/LSB, Downlink 145.975-145.825 MHz
CW/USB)

Operational.

A0-27

(Uplink 145.85 MHz FM, Downlink 436.792 MHz FM)

Operational

[ANS thanks Michael Wyrick, N4USI, A0-27 Control-op, for this update]

F0-20

(Uplink 145.9-146.0 MHz CW/LSB, Downlink 435.8-435.9 MHz CW/USB)

Operational. F0-20 in mode JA continuously.

F0-20, like many Leo's is in a "sun synchronous" orbit. The precession in the RAAN of its orbit due to the earth's oblateness matches the earth's rotation around the sun so that F0-20 always has about 33 minutes of eclipse time each orbit and the rest in sunshine. A sun synchronous orbit is a retrograde LEO polar orbit with an inclination of about 98 degrees. At this inclination RAAN precession = 360 degrees in 365 days. The stability in temperature and solar energy is, needless to say, very helpful. The ratio of eclipse to sunlight can be adjusted by varying initial orbital elements. F0-29, for example, is virtually always in sunlight, U0-11 has about 22 minutes of eclipse, most seem to run about 33 minutes eclipse per orbit.

This also means that F0-20 (and other sun synchronous sats) appear at your location at about the same "sun time" every day. At my QTH F0-20 goes over about 1:30 PM and 3:30 PM every day. U0-11, A0-16, D0-17, W0-18, L0-19, U0-22, K0-25, A0-27, F0-29 etc are also in sun synchronous orbits. K0-23, RS-12/13, RS-15, though in highly inclined orbits, are not sun synchronous. [ANS thanks Stacey Mills, W4SM, and Kazu Sakamoto, JJ1WTK, for this report]

F0-29

Voice/CW Mode JA

(Uplink 145.9-146.0 MHz CW/LSB, Downlink 435.8-435.9 MHz CW/USB)

Digital Mode JD

(Uplink 145.85, 145.87, 145.910 MHz FM, Downlink 435.910 MHz FM 9600

baud BPSK)

Operational.

1997

Dec. 26 07:42z JA

1998

Jan. 9 07:14z JD1200

Jan. 23 08:30z JA

Jan. 30 07:24z JD9600

Feb. 6 08:00z JA

Feb. 20 07:34z Digi-talker

Feb. 27 08:13z JA

[ANS thanks Kazu Sakamoto, JJ1WTK, for this report.]

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SB SAT @ AMSAT \$ANS-004.07

WEEKLY SATELLITE REPORT PT 2

HR AMSAT NEWS SERVICE BULLETIN 004.07 FROM AMSAT HQ

SILVER SPRING, MD, JANUARY 04, 1998

TO ALL RADIO AMATEURS BT

BID: \$ANS-004.07

K0-23

(Uplink 145.85, 145.9 MHz FM, Downlink 435.175 MHz FM,

9600 Baud FSK)

K0-23 operating normally.

[ANS thanks Jim Weisenberger, AA7KC, for this report]

K0-25

(Uplink 145.980 MHz FM, Downlink 436.5 MHz FM, 9600 Baud FSK.)

K0-25 operating normally.

[ANS thanks Jim Weisenberger, AA7KC, for this report]

OSCAR-11

(Downlink 145.825 MHz. FM, 1200 Baud PSK. Beacon 2401.500 MHz)

Operating normally.

The operating schedule is unchanged.

ASCII status (210 seconds)

ASCII bulletin (60 seconds)

BINARY SEU (30 seconds)
ASCII TLM (90 seconds)
ASCII WOD (120 seconds)
ASCII bulletin (60 seconds)
BINARY ENG (30 seconds)

There are also additional status blocks after each bulletin is transmitted, and between ASCII TLM and WOD.

The mode-S beacon is ON, transmitting an unmodulated carrier, but telemetry indicates that it has partially failed, and delivering half power. This beacon is a useful test source for those testing mode-S converters, prior to the launch of P3-D. It is considerably weaker than DOVE, which should be used for initial testing. Any reports of reception on 2401 MHz. would be most welcome. Please e-mail g3cwv@amsat.org.

The 435.025 MHz. beacon is normally OFF. However it can sometimes be heard when the satellite is being commanded by ground control, ie. within range of Guildford, UK. When the 435 beacon is transmitting, the 145 beacon is normally OFF. The data transmitted is mainly binary.

OSCAR-11 users are welcome to visit my web site. It contains some software for capturing data, and decoding ASCII telemetry and WOD. There is an archive of raw data (mainly WOD) for analysis, which is continually being expanded, as new data is captured. The URL is -

<http://www.users.zetnet.co.uk/clivew/>

[ANS thanks Clive Wallis, G3CWV, for this information]

AMSAT-OSCAR-16 (PACSAT)
(Uplink 145.9, 145.92, 145.94, 145.86 MHz FM, 1200 bps Manchester FSK
Downlink 437.0513 MHz SSB, 1200 bps RC-BPSK 1200 Baud PSK.
Beacon 2401.1428 MHz.)
Operating normally. A0-16 S band transmitter is off.
uptime is 1203/07:13:42. Time is Sat Jan 03 12:42:30 1998
+X (RX) Temp -5.448 D
RX Temp 0.603 D
Bat 1 Temp 5.444 D
Bat 2 Temp 7.260 D Baseplt Temp 6.049 D
RC PSK BP Temp 0.603 D RC PSK HPA Tmp 4.839 D
+Y Array Temp 3.024 D PSK TX HPA Tmp 1.209 D
+Z Array Temp -3.027 D
RC PSK TX Out 0.686 W

Total Array C= 0.457 Bat Ch Cur=-0.030 Ifb= 0.020 I+10V= 0.384
TX:010C BCR:7B PWRC:59F BT: A WC:25 EDAC:BC

Information about telemetry values and WOD files can be found at
<http://www.arrakis.es/~ealbcu/wod.htm>
[ANS thanks Miguel A. Menendez, EA1BCU, for this report]

D0-17(DOVE)
(Downlink 145.825 MHz FM, 1200 Baud AFSK. Beacon 2401.220 MHz)
Operational.
The DOVE S band beacon is on. The frequency is 2401.220 MHz. The 2 meter transmitter is also on, 145.825 MHz. Telemetry is being sent about every 30 seconds
A scanned image of the Dove's QSL at 425DXNews Web Site:
<http://www-dx.deis.unibo.it/htdx/>
[ANS thanks Jim White, WD0E, for this update]

WEBERSAT (W0-18)

(Downlink 437.104 MHz SSB, 1200 Baud PSK AX.25)

Bob Argyle, KB7KCL reports that WEBERSAT-OSCAR-18 is gathering and sending Whole Orbit Data. The PHOT0 task is being uploaded and the command team hopes to have pictures and spectra by about the 12th of December. W0-18's return to service is suspected to be seasonal in nature. Bob sends thanks to all those who have sent telemetry received from W0-18.

[ANS thanks Bob Argyle, KB7KCL, and SpaceNews for this update.]

LUSAT-OSCAR-19

(Uplink 1200 bps Manchester FSK Uplinks: 145.84, 145.86, 145.88, 145.90 MHz FM, Downlink 437.125 MHz SSB, 1200 bps RC-BPSK.)

Operating normally.

uptime is 927/22:19:37. Time is Sat Jan 03 12:24:47 1998

+X (RX) Temp -2.113 D RX Temp -0.991 D

Bat 1 Temp 3.496 D Bat 2 Temp 2.935 D

BaseplT Temp 2.374 D RC PSK BP Temp 5.740 D

RC PSK HPA Tmp 5.740 D +Y Array Temp -3.235 D

PSK TX HPA Tmp 4.618 D +Z Array Temp -3.796 D

RC PSK TX Out 1.004 W

Total Array C= 0.151 Bat Ch Cur=-0.043 Ifb= 0.038 I+10V= 0.208

TX:01A BCR:7F PWRC:36E BT:3C WC: 0

General information and telemetry samples can be found at:

<http://www.arrakis.es/~ealbcu/lo19.htm>

[ANS thanks Miguel A. Menendez, EA1BCU, for this report]

U0-22

(Uplink: 145.900 or 145.975 MHz FM. Downlink 435.120 MHz FM 9600 Baud FSK)

U0-22 is operating normally.

Roy Welch, W0SL, and Jerry Smyth, N8ULU, have been helping out a ham, Ron Ross, KE6JAB, who has taken a trip to Antarctica. He is now active on U0-22 with his portable station. He plans on sending pictures when he can get his digital camera going. If Ron gets the camera going, you should be able to view at the following URL.

<http://www.thistle.org>

Chris Jackson, G7UPN/ZL2TP0, has reloaded the Store and Forward communications task on the U0-22 On-Board Computer. This task includes incremental checksums which should make uploading slightly faster.

[ANS thanks Chris Jackson, G7UPN/ZL2TP0, Ground station and Operations Manager of U0-22, for this report]

I0-26 (ITAMSAT)

Uplink 145.875, 145.900, 145.925, 145.950 MHz FM, Downlink 435.822 MHz SSB, 1200 Baud PSK)

No report at this time.

[Please send your Satellite or News reports to ANS Editor BJ Arts, WT0N, via e-mail, at bjarts@the-bridge.net or to wt0n@amsat.org or visit WT0N's Homepage <http://www.qsl.net/wt0n>]

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